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NEWS 3 NOV 26 MARPAT enhanced with FSORT command
NEWS 4 NOV 26 CHEMSAFE now available on STN Easy
NEWS 5 NOV 26 Two new SET commands increase convenience of STN searching
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NEWS 7 DEC 12 GBFULL now offers single source for full-text coverage of complete UK patent families
NEWS 8 DEC 17 Fifty-one pharmaceutical ingredients added to PS
NEWS 9 JAN 06 The retention policy for unread STNmail messages will change in 2009 for STN-Columbus and STN-Tokyo
NEWS 10 JAN 07 WPIDS, WPINDEX, and WPIX enhanced Japanese Patent Classification Data
NEWS 11 FEB 02 Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS 12 FEB 02 GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS 13 FEB 06 Patent sequence location (PSL) data added to USGENE
NEWS 14 FEB 10 COMPENDEX reloaded and enhanced
NEWS 15 FEB 11 WTEXTILES reloaded and enhanced

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* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 09:28:39 ON 18 FEB 2009

=> file caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.22 0.22

FILE 'CAPLUS' ENTERED AT 09:28:53 ON 18 FEB 2009
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FILE COVERS 1907 - 18 Feb 2009  VOL 150 ISS 8
FILE LAST UPDATED: 17 Feb 2009  (20090217/ED)

Caplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s carbonitrosilicate or nitrocarbosilicate
             0 CARBONITROSILICATE
             0 NITROCARBOSILICATE
L1           0 CARBONITROSILICATE OR NITROCARBOSILICATE

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     4.98       5.20

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STRUCTURE FILE UPDATES:   17 FEB 2009  HIGHEST RN 1107694-62-1
DICTIONARY FILE UPDATES:  17 FEB 2009  HIGHEST RN 1107694-62-1

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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> e cn6si4y2/mf
E1           1     CN6SI4TB0.3Y1.7/MF
E2           1     CN6SI4TB2/MF
E3           0 --> CN6SI4Y2/MF
E4           6     CN7/MF
E5           1     CN7Y8/MF
E6           1     CN8O2/MF
E7           1     CN8O4/MF
E8           3     CN9/MF
E9           1     CN9.BF4/MF
E10          2     CN9.CL6SB/MF
E11          1     CN9.CL6U/MF
E12          1     CN9.CLO4/MF

=> s e1,e3
             1 CN6SI4TB0.3Y1.7/MF
             0 CN6SI4Y2/MF
L2           1 (CN6SI4TB0.3Y1.7/MF OR CN6SI4Y2/MF)
```

=> d

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 903905-90-8 REGISTRY
ED Entered STN: 23 Aug 2006
CN Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6) (9CI) (CA INDEX NAME)
MF C . N . Si . Tb . Y
AF C N6 Si4 Tb0.3 Y1.7
CI TIS
SR CA
LC STN Files: CA, CAPLUS

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.7	7440-65-5
C	1	7440-44-0
Tb	0.3	7440-27-9
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d all

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 903905-90-8 REGISTRY
ED Entered STN: 23 Aug 2006
CN Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6) (9CI) (CA INDEX NAME)
MF C . N . Si . Tb . Y
AF C N6 Si4 Tb0.3 Y1.7
CI TIS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.7	7440-65-5
C	1	7440-44-0
Tb	0.3	7440-27-9
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1
Full Text

AN 145:220100 CA
TI Preparation, Structure, and Luminescence Properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+
AU Zhang, Hongchuan; Horikawa, Takashi; Machida, Ken-Ichi
CS Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, 565-0871, Japan
SO Journal of the Electrochemical Society (2006), 153(7), H151-H154
CODEN: JESOAN; ISSN: 0013-4651

PB Electrochemical Society
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
AB Rare-earth Si carbonitrides, Y2Si4N6C and Y2Si4N6C:M3+ (M=Ce,Tb), were prepd. by a carbothermal redn. and nitridation method. The crystal structure of Y2Si4N6C was detd. by Rietveld refinement using the at. coordinates of Ho2Si4N6C as a starting model. The host lattice was isostructural with Ho2Si4N6C of monoclinic system [P21/c, a 5.9295(1), b 9.8957(1), c 11.8800(2) A, β 119.63(4)°, and Z = 4]. The photoluminescence properties of doped materials, Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+, were characterized from the detailed structural anal. result.
ST prepn structure luminescence yttrium carbide nitride silicide cerium terbium
IT Reduction
(carbothermic, in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Nitriding
(in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Bond angle
Bond length
Crystal structure
Luminescence
Molecular structure
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Photoexcitation
(spectra; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 343332-13-8P, Silicon yttrium carbide nitride (Si4Y2CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(doped with rare earth ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 903905-89-5P, Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6)
903905-90-8P, Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6)
903905-91-9P, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6)
903905-92-0P, Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6)
903905-93-1P, Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 1314-36-9, Yttrium oxide, reactions 7440-44-0, Carbon, reactions 7727-37-9, Nitrogen, reactions 12033-89-5, Silicon nitride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 7440-27-9, Terbium, properties 7440-45-1, Cerium, properties 18923-26-7, Cerium(3+), properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(yttrium carbide nitride silicide doped with; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Adamsky, R; Z Kristallogr 1959, V111, P350 CAPLUS
(2) Ekstrom, T; J Mater Chem 1997, V7, P505 CAPLUS
(3) Hintzen, H; EP 1104799 2001 CAPLUS
(4) Hirosaki, N; WO 2005078811 2001 CAPLUS
(5) Hoppe, H; J Mater Chem 2001, V11, P3300
(6) Lammers, M; J Electrochem Soc 1987, V134, P2068 CAPLUS

(7) Lee, J; J Am Ceram Soc 1979, V58, P869 CAPLUS
(8) Li, Y; J Solid State Chem 2004, V177, P4687 CAPLUS
(9) Liddell, K; J Eur Ceram Soc 2005, V25, P37 CAPLUS
(10) Schmidt, P; WO 2005083037 A1 2005 CAPLUS
(11) Thompson, D; Mater Sci Res 1986, V20, P79 CAPLUS
(12) van Krevel, J; J Alloys Compd 1998, V268, P272 CAPLUS
(13) van Krevel, J; J Solid State Chem 2002, V165, P19 CAPLUS
(14) Wiles, D; J Appl Crystallogr 1981, V14, P149 CAPLUS
(15) Wiles, D; J Appl Crystallogr 1982, V15, P430

=> d acc 343332-13-8

ANSWER 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 343332-13-8 REGISTRY
ED Entered STN: 26 Jun 2001
CN Silicon yttrium carbide nitride (Si4Y2CN6) (CA INDEX NAME)
MF C . N . Si . Y
AF N6 O Si4 Y2
CI TIS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	2	7440-65-5
C	1	7440-44-0
Si	4	7440-21-3

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d all

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN 903905-90-8 REGISTRY
ED Entered STN: 23 Aug 2006
CN Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6) (9CI) (CA INDEX NAME)
MF C . N . Si . Tb . Y
AF C N6 Si4 Tb0.3 Y1.7
CI TIS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.7	7440-65-5
C	1	7440-44-0
Tb	0.3	7440-27-9
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

Full Text

AN 145:220100 CA
TI Preparation, Structure, and Luminescence Properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+
AU Zhang, Hongchuan; Horikawa, Takashi; Machida, Ken-Ichi
CS Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, 565-0871, Japan
SO Journal of the Electrochemical Society (2006), 153(7), H151-H154
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
AB Rare-earth Si carbonitrides, Y2Si4N6C and Y2Si4N6C:M3+ (M=Ce,Tb), were prepd. by a carbothermal redn. and nitridation method. The crystal structure of Y2Si4N6C was detd. by Rietveld refinement using the at. coordinates of Ho2Si4N6C as a starting model. The host lattice was isostructural with Ho2Si4N6C of monoclinic system [P21/c, a 5.9295(1), b 9.8957(1), c 11.8800(2) A, β 119.63(4)°, and Z = 4]. The photoluminescence properties of doped materials, Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+, were characterized from the detailed structural anal. result.
ST prepn structure luminescence yttrium carbide nitride silicide cerium terbium
IT Reduction
(carbothermic, in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Nitriding
(in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Bond angle
Bond length
Crystal structure
Luminescence
Molecular structure
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Photoexcitation
(spectra; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 343332-13-8P, Silicon yttrium carbide nitride (Si4Y2CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(doped with rare earth ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 903905-89-5P, Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6)
903905-90-8P, Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6)
903905-91-9P, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6)
903905-92-0P, Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6)
903905-93-1P, Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 1314-36-9, Yttrium oxide, reactions 7440-44-0, Carbon, reactions 7727-37-9, Nitrogen, reactions 12033-89-5, Silicon nitride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 7440-27-9, Terbium, properties 7440-45-1, Cerium, properties

18923-26-7, Cerium(3+), properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(yttrium carbide nitride silicide doped with; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

(1) Adamsky, R; Z Kristallogr 1959, V111, P350 CAPLUS
(2) Ekstrom, T; J Mater Chem 1997, V7, P505 CAPLUS
(3) Hintzen, H; EP 1104799 2001 CAPLUS
(4) Hirosaki, N; WO 2005078811 2001 CAPLUS
(5) Hoppe, H; J Mater Chem 2001, V11, P3300
(6) Lammers, M; J Electrochem Soc 1987, V134, P2068 CAPLUS
(7) Lee, J; J Am Ceram Soc 1979, V58, P869 CAPLUS
(8) Li, Y; J Solid State Chem 2004, V177, P4687 CAPLUS
(9) Liddell, K; J Eur Ceram Soc 2005, V25, P37 CAPLUS
(10) Schmidt, P; WO 2005083037 A1 2005 CAPLUS
(11) Thompson, D; Mater Sci Res 1986, V20, P79 CAPLUS
(12) van Krevel, J; J Alloys Compd 1998, V268, P272 CAPLUS
(13) van Krevel, J; J Solid State Chem 2002, V165, P19 CAPLUS
(14) Wiles, D; J Appl Crystallogr 1981, V14, P149 CAPLUS
(15) Wiles, D; J Appl Crystallogr 1982, V15, P430


```
=> e ccen6si4y2/mf
E1            1     CCEI/MF
E2            1     CCEN/MF
E3            0 --> CCEN6SI4Y2/MF
E4            3     CCEO/MF
E5            4     CCEO2/MF
E6            1     CCEO3/MF
E7            1     CCEO3.H/MF
E8            1     CCEO4/MF
E9            1     CCEO4.H4N/MF
E10           1     CCEOS2SI/MF
E11           1     CCEPT3/MF
E12           1     CCERE2SI/MF

=> e cerium silicon yttrium carbide nitride/cn
E1            1     CERIUM SILICON TRIARSENIDE/CN
E2            1     CERIUM SILICON TRIPHOSPHIDE/CN
E3            0 --> CERIUM SILICON YTTRIUM CARBIDE NITRIDE/CN
E4            1     CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.02SI4Y1.98CN6)/C
                    N
E5            1     CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.04SI4Y1.96CN6)/C
                    N
E6            1     CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.06SI4Y1.94CN6)/C
                    N
E7            1     CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.08SI4Y1.92CN6)/C
                    N
E8            1     CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.1SI4Y1.9CN6)/CN
E9            1     CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.2SI4Y1.8CN6)/CN
E10           1     CERIUM SILICON YTTRIUM NITRIDE (CE0.05SI3Y0.95N5)/CN
E11           1     CERIUM SILICON YTTRIUM OXIDE/CN
E12           1     CERIUM SILICON ZIRCONIUM BORIDE NITRIDE OXIDE (CE0.03SI0.1ZR
                    0.74B1.68N0.34O0.06)/CN

=> s e4-e10
              1 "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.02SI4Y1.98CN6)"/CN
              1 "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.04SI4Y1.96CN6)"/CN
              1 "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.06SI4Y1.94CN6)"/CN
              1 "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.08SI4Y1.92CN6)"/CN
              1 "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.1SI4Y1.9CN6)"/CN
              1 "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.2SI4Y1.8CN6)"/CN
              1 "CERIUM SILICON YTTRIUM NITRIDE (CE0.05SI3Y0.95N5)"/CN
L3            7 ("CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.02SI4Y1.98CN6)"/CN
                  OR "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.04SI4Y1.96CN6)"
                 /CN OR "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.06SI4Y1.94CN
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              6)"/CN OR "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.08SI4Y1.9
              2CN6)"/CN OR "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.1SI4Y1
              .9CN6)"/CN OR "CERIUM SILICON YTTRIUM CARBIDE NITRIDE (CE0.2SI4Y
              1.8CN6)"/CN OR "CERIUM SILICON YTTRIUM NITRIDE (CE0.05SI3Y0.95N5
              )"/CN)

=> e cerium silicon lutium carbide nitride/cn
E1            1     CERIUM SILICON CHLORIDE NITRIDE OXIDE (CE4SI4CL0.93N6.93O3.1
                    4)/CN
E2            1     CERIUM SILICON FLUORIDE OXIDE (CE0.5SI0.5F1.5O)/CN
E3            0 --> CERIUM SILICON LUTIUM CARBIDE NITRIDE/CN
E4            1     CERIUM SILICON NITRIDE (CE2SI5N8)/CN
E5            1     CERIUM SILICON NITRIDE (CE3SI6N11)/CN
E6            1     CERIUM SILICON NITRIDE (CESI3N5)/CN
E7            1     CERIUM SILICON NITRIDE OXIDE (CE0.01SI2.97N3.97O0.02)/CN
E8            1     CERIUM SILICON NITRIDE OXIDE (CE0.02SI2.93N3.9O0.05)/CN
E9            1     CERIUM SILICON NITRIDE OXIDE (CE0.08SI2.75N3.67O0.17)/CN
E10           1     CERIUM SILICON NITRIDE OXIDE (CE0.1SI2.85N3.8O0.15)/CN
E11           1     CERIUM SILICON NITRIDE OXIDE (CE16SI15N32O6)/CN
E12           1     CERIUM SILICON NITRIDE OXIDE (CE2SI3N2O5)/CN

=> e cerium silicon gadolinium carbide nitride/cn
E1            1     CERIUM SILICON CHLORIDE NITRIDE OXIDE (CE4SI4CL0.93N6.93O3.1
                    4)/CN
E2            1     CERIUM SILICON FLUORIDE OXIDE (CE0.5SI0.5F1.5O)/CN
E3            0 --> CERIUM SILICON GADOLINIUM CARBIDE NITRIDE/CN
E4            1     CERIUM SILICON NITRIDE (CE2SI5N8)/CN
E5            1     CERIUM SILICON NITRIDE (CE3SI6N11)/CN
E6            1     CERIUM SILICON NITRIDE (CESI3N5)/CN
E7            1     CERIUM SILICON NITRIDE OXIDE (CE0.01SI2.97N3.97O0.02)/CN
E8            1     CERIUM SILICON NITRIDE OXIDE (CE0.02SI2.93N3.9O0.05)/CN
E9            1     CERIUM SILICON NITRIDE OXIDE (CE0.08SI2.75N3.67O0.17)/CN
E10           1     CERIUM SILICON NITRIDE OXIDE (CE0.1SI2.85N3.8O0.15)/CN
E11           1     CERIUM SILICON NITRIDE OXIDE (CE16SI15N32O6)/CN
E12           1     CERIUM SILICON NITRIDE OXIDE (CE2SI3N2O5)/CN

=> d all l3

L3   ANSWER 1 OF 7  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   1007115-58-3  REGISTRY
ED   Entered STN:  07 Mar 2008
CN   Cerium silicon yttrium nitride (Ce0.05Si3Y0.95N5)  (CA INDEX
     NAME)
MF   Ce . N . Si . Y
AF   Ce0.05 N5 Si3 Y0.95
CI   TIS
SR   CA
LC   STN Files:   CA, CAPLUS
DT.CA  CAplus document type:  Patent
RL.P   Roles from patents:  PREP (Preparation); PRP (Properties); USES (Uses)

  Component   |        Ratio        |     Component
              |                     |  Registry Number
==============+=====================+==================
N             |          5          |       17778-88-0
Y             |        0.95         |        7440-65-5
Ce            |        0.05         |        7440-45-1
Si            |          3          |        7440-21-3

              1 REFERENCES IN FILE CA (1907 TO DATE)
              1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE  1
```

Full Text

AN 148:272455 CA
TI Method for preparing nitride phosphor
IN Liu, Quanlin; Wei, Xiaodan; Cai, Liyan
PA University of Science and Technology of Beijing, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 11pp.
CODEN: CNXXEV
DT Patent
LA Chinese
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 101113332	A	20080130	CN 2007-10119774	20070731
PRAI	CN 2007-10119774		20070731		

AB The title nitride luminous material has a general chem. formula of: Ln1-xMxy+Si3N5-3x+xyO3x-xy, wherein, Ln is La or Y; M is Ce or Eu; y = 3 or 2; 0<x<1. The title method entails the steps of: (1) smelting Ln and Si in an arc furnace to obtain alloy LnaSib, smelting Ce and Si in an arc furnace to obtain alloy CecSid, and grinding, and (2) uniformly and proportionally mixing LnaSib, CecSid or Eu2O3, and Si3N4, tabletting, placing into a high-temp. solid-phase reaction furnace, and sintering at 1,600-1,800°C under 1-10atm nitrogen protection for 1-10h. By doping rare earth luminous center My+ in YSi3(N,O)5 matrix, nitride luminous material with good fluorescent performance in visible light wave band can be obtained. The nitride luminous material has an emission wavelength of 400-600nm when being excited by 350-510nm light.

ST prepn nitride luminous material
IT Grinding (machining)
Phosphors
Sintering
Smelting
(method for prepg. nitride phosphor)
IT 1007115-58-3P, Cerium silicon yttrium nitride (Ce0.05Si3Y0.95N5) 1007115-59-4P, Europium silicon yttrium nitride oxide (Eu0.1Si3Y0.9N4.9O0.1) 1007115-60-7P, Cerium lanthanum silicon nitride (Ce0.02La0.98Si3N5) 1007115-61-8P, Europium lanthanum silicon nitride oxide (Eu0.05La0.95Si3N4.95O0.05)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for prepg. nitride phosphor)
IT 1308-96-9, Europium oxide 7439-91-0, Lanthanum, reactions 7440-21-3, Silicon, reactions 7440-45-1, Cerium, reactions 7440-65-5, Yttrium, reactions 12033-89-5, Silicon nitride, reactions 102427-06-5, Yttrium silicide 144593-16-8, Lanthanum silicide 144593-17-9, Cerium silicide
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for prepg. nitride phosphor)

=> d all l3 1-7

L3 ANSWER 1 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN
RN 1007115-58-3 REGISTRY
ED Entered STN: 07 Mar 2008
CN Cerium silicon yttrium nitride (Ce0.05Si3Y0.95N5) (CA INDEX NAME)
MF Ce . N . Si . Y
AF Ce0.05 N5 Si3 Y0.95
CI TIS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); PRP (Properties); USES (Uses)

Component	Ratio	Component Registry Number

N	5	17778-88-0
Y	0.95	7440-65-5
Ce	0.05	7440-45-1
Si	3	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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Full Text

AN 148:272455 CA
TI Method for preparing nitride phosphor
IN Liu, Quanlin; Wei, Xiaodan; Cai, Liyan
PA University of Science and Technology of Beijing, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 11pp.
CODEN: CNXXEV
DT Patent
LA Chinese
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101113332	A	20080130	CN 2007-10119774	20070731
PRAI CN 2007-10119774		20070731		

AB The title nitride luminous material has a general chem. formula of: Ln1-xMxy+Si3N5-3x+xyO3x-xy, wherein, Ln is La or Y; M is Ce or Eu; y = 3 or 2; 0<x<1. The title method entails the steps of: (1) smelting Ln and Si in an arc furnace to obtain alloy LnaSib, smelting Ce and Si in an arc furnace to obtain alloy CecSid, and grinding, and (2) uniformly and proportionally mixing LnaSib, CecSid or Eu2O3, and Si3N4, tabletting, placing into a high-temp. solid-phase reaction furnace, and sintering at 1,600-1,800°C under 1-10atm nitrogen protection for 1-10h. By doping rare earth luminous center My+ in YSi3(N,O)5 matrix, nitride luminous material with good fluorescent performance in visible light wave band can be obtained. The nitride luminous material has an emission wavelength of 400-600nm when being excited by 350-510nm light.

ST prepn nitride luminous material

IT Grinding (machining)
Phosphors
Sintering
Smelting
(method for prepg. nitride phosphor)

IT 1007115-58-3P, Cerium silicon yttrium nitride (Ce0.05Si3Y0.95N5) 1007115-59-4P, Europium silicon yttrium nitride oxide (Eu0.1Si3Y0.9N4.9O0.1) 1007115-60-7P, Cerium lanthanum silicon nitride (Ce0.02La0.98Si3N5) 1007115-61-8P, Europium lanthanum silicon nitride oxide (Eu0.05La0.95Si3N4.95O0.05)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for prepg. nitride phosphor)

IT 1308-96-9, Europium oxide 7439-91-0, Lanthanum, reactions 7440-21-3, Silicon, reactions 7440-45-1, Cerium, reactions 7440-65-5, Yttrium, reactions 12033-89-5, Silicon nitride, reactions 102427-06-5, Yttrium silicide 144593-16-8, Lanthanum silicide 144593-17-9, Cerium silicide
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for prepg. nitride phosphor)

L3 ANSWER 2 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN
RN 925545-77-3 REGISTRY
ED Entered STN: 07 Mar 2007
CN Cerium silicon yttrium carbide nitride (Ce0.2Si4Y1.8CN6) (CA INDEX NAME)

```
MF   C . Ce . N . Si . Y
AF   C Ce0.2 N6 Si4 Y1.8
CI   TIS
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL
DT.CA  CAplus document type:  Patent
RL.P   Roles from patents:  USES (Uses)
```

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.8	7440-65-5
Ce	0.2	7440-45-1
C	1	7440-44-0
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

Full Text

```
AN   146:261546  CA
TI   Phosphors with carbidonitridosilicate-type host lattices
IN   Hintzen, Hubertus Theresia; Starick, Detlef; Roesler, Sylke; Roesler,
     Sven; Li, Yuan Qiang
PA   Leuchtstoffwerk Breitungen GmbH, Germany; Tridonic Optoelectronics GmbH
SO   Ger. Offen., 8pp.
     CODEN: GWXXBX
DT   Patent
LA   German
CC   73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
     Properties)
FAN.CNT 1
     PATENT NO.          KIND  DATE          APPLICATION NO.  DATE
     ------------------  ----  --------      ---------------  --------
PI   DE 102005041153     A1    20070301      DE 2005-102005041153 20050830
     CA 2620558          A1    20070308      CA 2006-2620558  20060829
     WO 2007025973       A1    20070308      WO 2006-EP65788  20060829
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
             KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
             MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
             RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     EP 1922904          A1    20080521      EP 2006-793068   20060829
          R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     JP 2009506185       T     20090212      JP 2008-528506   20060829
     IN 2008DN01848      A     20080627      IN 2008-DN1848   20080229
     CN 101253814        A     20080827      CN 2006-80031921 20080229
     US 20080251764      A1    20081016      US 2008-65480    20080229
     KR 2008049771       A     20080604      KR 2008-707220   20080325
PRAI DE 2005-102005041153  20050830
     WO 2006-EP65788  20060829
AB   Phosphors based on doped hosts are described which have a
     carbidonitridosilicate-type host lattice.
ST   carbidonitridosilicate host lattice phosphor
```

IT Phosphors
(phosphors with carbidonitridosilicate-type host lattices)
IT 343332-13-8, Silicon yttrium carbide nitride (Si4Y2CN6) 903905-91-9, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6) 925545-76-2, Cerium silicon yttrium carbide nitride (Ce0.1Si4Y1.9CN6) 925545-77-3, Cerium silicon yttrium carbide nitride (Ce0.2Si4Y1.8CN6)
RL: TEM (Technical or engineered material use); USES (Uses)
(cerium- and/or terbium-doped; phosphors with carbidonitridosilicate-type host lattices)
IT 7440-27-9, Terbium, uses 7440-45-1, Cerium, uses 7440-53-1, Europium, uses 16910-54-6, Europium 2+, uses 18923-26-7, Cerium 3+, uses 22541-18-0, Europium 3+, uses 22541-20-4, Terbium 3+, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(phosphors with carbidonitridosilicate-type host lattices)

L3 ANSWER 3 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN
RN 925545-76-2 REGISTRY
ED Entered STN: 07 Mar 2007
CN Cerium silicon yttrium carbide nitride (Ce0.1Si4Y1.9CN6) (CA INDEX NAME)
MF C . Ce . N . Si . Y
AF C Ce0.1 N6 Si4 Y1.9
CI TIS
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: USES (Uses)

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.9	7440-65-5
Ce	0.1	7440-45-1
C	1	7440-44-0
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1
Full Text

AN 146:261546 CA
TI Phosphors with carbidonitridosilicate-type host lattices
IN Hintzen, Hubertus Theresia; Starick, Detlef; Roesler, Sylke; Roesler, Sven; Li, Yuan Qiang
PA Leuchtstoffwerk Breitungen GmbH, Germany; Tridonic Optoelectronics GmbH
SO Ger. Offen., 8pp.
CODEN: GWXXBX
DT Patent
LA German
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 102005041153	A1	20070301	DE 2005-102005041153	20050830
	CA 2620558	A1	20070308	CA 2006-2620558	20060829
	WO 2007025973	A1	20070308	WO 2006-EP65788	20060829

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,

MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

EP 1922904 A1 20080521 EP 2006-793068 20060829
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
JP 2009506185 T 20090212 JP 2008-528506 20060829
IN 2008DN01848 A 20080627 IN 2008-DN1848 20080229
CN 101253814 A 20080827 CN 2006-80031921 20080229
US 20080251764 A1 20081016 US 2008-65480 20080229
KR 2008049771 A 20080604 KR 2008-707220 20080325

PRAI DE 2005-102005041153 20050830
WO 2006-EP65788 20060829

AB Phosphors based on doped hosts are described which have a carbidonitridosilicate-type host lattice.

ST carbidonitridosilicate host lattice phosphor

IT Phosphors
(phosphors with carbidonitridosilicate-type host lattices)

IT 343332-13-8, Silicon yttrium carbide nitride (Si4Y2CN6) 903905-91-9, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6) 925545-76-2, Cerium silicon yttrium carbide nitride (Ce0.1Si4Y1.9CN6) 925545-77-3, Cerium silicon yttrium carbide nitride (Ce0.2Si4Y1.8CN6)
RL: TEM (Technical or engineered material use); USES (Uses)
(cerium- and/or terbium-doped; phosphors with carbidonitridosilicate-type host lattices)

IT 7440-27-9, Terbium, uses 7440-45-1, Cerium, uses 7440-53-1, Europium, uses 16910-54-6, Europium 2+, uses 18923-26-7, Cerium 3+, uses 22541-18-0, Europium 3+, uses 22541-20-4, Terbium 3+, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(phosphors with carbidonitridosilicate-type host lattices)

L3 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN
RN 903905-93-1 REGISTRY
ED Entered STN: 23 Aug 2006
CN Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6) (CA INDEX NAME)
MF C . Ce . N . Si . Y
AF C Ce0.08 N6 Si4 Y1.92
CI TIS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.92	7440-65-5
Ce	0.08	7440-45-1
C	1	7440-44-0
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1
Full Text

AN 145:220100 CA
TI Preparation, Structure, and Luminescence Properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+
AU Zhang, Hongchuan; Horikawa, Takashi; Machida, Ken-Ichi
CS Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, 565-0871, Japan
SO Journal of the Electrochemical Society (2006), 153(7), H151-H154
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
AB Rare-earth Si carbonitrides, Y2Si4N6C and Y2Si4N6C:M3+ (M=Ce,Tb), were prepd. by a carbothermal redn. and nitridation method. The crystal structure of Y2Si4N6C was detd. by Rietveld refinement using the at. coordinates of Ho2Si4N6C as a starting model. The host lattice was isostructural with Ho2Si4N6C of monoclinic system [P21/c, a 5.9295(1), b 9.8957(1), c 11.8800(2) A, β 119.63(4)°, and Z = 4]. The photoluminescence properties of doped materials, Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+, were characterized from the detailed structural anal. result.
ST prepn structure luminescence yttrium carbide nitride silicide cerium terbium
IT Reduction
(carbothermic, in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Nitriding
(in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Bond angle
Bond length
Crystal structure
Luminescence
Molecular structure
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Photoexcitation
(spectra; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 343332-13-8P, Silicon yttrium carbide nitride (Si4Y2CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(doped with rare earth ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 903905-89-5P, Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6)
903905-90-8P, Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6)
903905-91-9P, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6)
903905-92-0P, Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6)
903905-93-1P, Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 1314-36-9, Yttrium oxide, reactions 7440-44-0, Carbon, reactions 7727-37-9, Nitrogen, reactions 12033-89-5, Silicon nitride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 7440-27-9, Terbium, properties 7440-45-1, Cerium, properties 18923-26-7, Cerium(3+), properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(yttrium carbide nitride silicide doped with; prepn., structure, and

luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Adamsky, R; Z Kristallogr 1959, V111, P350 CAPLUS
(2) Ekstrom, T; J Mater Chem 1997, V7, P505 CAPLUS
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(13) van Krevel, J; J Solid State Chem 2002, V165, P19 CAPLUS
(14) Wiles, D; J Appl Crystallogr 1981, V14, P149 CAPLUS
(15) Wiles, D; J Appl Crystallogr 1982, V15, P430

L3 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN
RN 903905-92-0 REGISTRY
ED Entered STN: 23 Aug 2006
CN Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6) (CA INDEX NAME)
MF C . Ce . N . Si . Y
AF C Ce0.04 N6 Si4 Y1.96
CI TIS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.96	7440-65-5
Ce	0.04	7440-45-1
C	1	7440-44-0
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1
Full Text

AN 145:220100 CA
TI Preparation, Structure, and Luminescence Properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+
AU Zhang, Hongchuan; Horikawa, Takashi; Machida, Ken-Ichi
CS Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, 565-0871, Japan
SO Journal of the Electrochemical Society (2006), 153(7), H151-H154
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
AB Rare-earth Si carbonitrides, Y2Si4N6C and Y2Si4N6C:M3+ (M=Ce,Tb), were prepd. by a carbothermal redn. and nitridation method. The crystal structure of Y2Si4N6C was detd. by Rietveld refinement using the at. coordinates of Ho2Si4N6C as a starting model. The host lattice was isostructural with Ho2Si4N6C of monoclinic system [P21/c, a 5.9295(1), b

9.8957(1), c 11.8800(2) A, β 119.63(4)°, and Z = 4]. The photoluminescence properties of doped materials, Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+, were characterized from the detailed structural anal. result.

ST prepn structure luminescence yttrium carbide nitride silicide cerium terbium

IT Reduction
(carbothermic, in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT Nitriding
(in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT Bond angle
Bond length
Crystal structure
Luminescence
Molecular structure
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT Photoexcitation
(spectra; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT 343332-13-8P, Silicon yttrium carbide nitride (Si4Y2CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(doped with rare earth ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT 903905-89-5P, Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6)
903905-90-8P, Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6)
903905-91-9P, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6)
903905-92-0P, Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6)
903905-93-1P, Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT 1314-36-9, Yttrium oxide, reactions 7440-44-0, Carbon, reactions 7727-37-9, Nitrogen, reactions 12033-89-5, Silicon nitride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT 7440-27-9, Terbium, properties 7440-45-1, Cerium, properties 18923-26-7, Cerium(3+), properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(yttrium carbide nitride silicide doped with; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

(1) Adamsky, R; Z Kristallogr 1959, V111, P350 CAPLUS
(2) Ekstrom, T; J Mater Chem 1997, V7, P505 CAPLUS
(3) Hintzen, H; EP 1104799 2001 CAPLUS
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(6) Lammers, M; J Electrochem Soc 1987, V134, P2068 CAPLUS
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(12) van Krevel, J; J Alloys Compd 1998, V268, P272 CAPLUS
(13) van Krevel, J; J Solid State Chem 2002, V165, P19 CAPLUS
(14) Wiles, D; J Appl Crystallogr 1981, V14, P149 CAPLUS
(15) Wiles, D; J Appl Crystallogr 1982, V15, P430

L3 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN

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RN   903905-91-9  REGISTRY
ED   Entered STN:  23 Aug 2006
CN   Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6)  (CA
     INDEX NAME)
MF   C . Ce . N . Si . Y
AF   C Ce0.02 N6 Si4 Y1.98
CI   TIS
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL
DT.CA  CAplus document type:  Journal; Patent
RL.P   Roles from patents:  USES (Uses)
RL.NP  Roles from non-patents:  PREP (Preparation); PRP (Properties)
```

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.98	7440-65-5
Ce	0.02	7440-45-1
C	1	7440-44-0
Si	4	7440-21-3

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

Full Text

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AN   146:261546  CA
TI   Phosphors with carbidonitridosilicate-type host lattices
IN   Hintzen, Hubertus Theresia; Starick, Detlef; Roesler, Sylke; Roesler,
     Sven; Li, Yuan Qiang
PA   Leuchtstoffwerk Breitungen GmbH, Germany; Tridonic Optoelectronics GmbH
SO   Ger. Offen., 8pp.
     CODEN: GWXXBX
DT   Patent
LA   German
CC   73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
     Properties)
FAN.CNT 1
     PATENT NO.          KIND  DATE          APPLICATION NO.  DATE
     ---------------     ----  --------      ---------------  --------
PI   DE 102005041153     A1    20070301      DE 2005-102005041153 20050830
     CA 2620558          A1    20070308      CA 2006-2620558  20060829
     WO 2007025973       A1    20070308      WO 2006-EP65788  20060829
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
              KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
              MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
              RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
              UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
              CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM
     EP 1922904          A1    20080521      EP 2006-793068   20060829
          R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     JP 2009506185       T     20090212      JP 2008-528506   20060829
     IN 2008DN01848      A     20080627      IN 2008-DN1848   20080229
     CN 101253814        A     20080827      CN 2006-80031921 20080229
     US 20080251764      A1    20081016      US 2008-65480    20080229
     KR 2008049771       A     20080604      KR 2008-707220   20080325
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PRAI DE 2005-102005041153 20050830
WO 2006-EP65788 20060829
AB Phosphors based on doped hosts are described which have a carbidonitridosilicate-type host lattice.
ST carbidonitridosilicate host lattice phosphor
IT Phosphors
(phosphors with carbidonitridosilicate-type host lattices)
IT 343332-13-8, Silicon yttrium carbide nitride (Si4Y2CN6) 903905-91-9, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6) 925545-76-2, Cerium silicon yttrium carbide nitride (Ce0.1Si4Y1.9CN6) 925545-77-3, Cerium silicon yttrium carbide nitride (Ce0.2Si4Y1.8CN6)
RL: TEM (Technical or engineered material use); USES (Uses)
(cerium- and/or terbium-doped; phosphors with carbidonitridosilicate-type host lattices)
IT 7440-27-9, Terbium, uses 7440-45-1, Cerium, uses 7440-53-1, Europium, uses 16910-54-6, Europium 2+, uses 18923-26-7, Cerium 3+, uses 22541-18-0, Europium 3+, uses 22541-20-4, Terbium 3+, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(phosphors with carbidonitridosilicate-type host lattices)

REFERENCE 2
Full Text

AN 145:220100 CA
TI Preparation, Structure, and Luminescence Properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+
AU Zhang, Hongchuan; Horikawa, Takashi; Machida, Ken-Ichi
CS Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, 565-0871, Japan
SO Journal of the Electrochemical Society (2006), 153(7), H151-H154
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
AB Rare-earth Si carbonitrides, Y2Si4N6C and Y2Si4N6C:M3+ (M=Ce,Tb), were prepd. by a carbothermal redn. and nitridation method. The crystal structure of Y2Si4N6C was detd. by Rietveld refinement using the at. coordinates of Ho2Si4N6C as a starting model. The host lattice was isostructural with Ho2Si4N6C of monoclinic system [P21/c, a 5.9295(1), b 9.8957(1), c 11.8800(2) A, β 119.63(4)°, and Z = 4]. The photoluminescence properties of doped materials, Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+, were characterized from the detailed structural anal. result.
ST prepn structure luminescence yttrium carbide nitride silicide cerium terbium
IT Reduction
(carbothermic, in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Nitriding
(in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Bond angle
Bond length
Crystal structure
Luminescence
Molecular structure
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and

Y2Si4N6C:Tb3+)
IT Photoexcitation
(spectra; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 343332-13-8P, Silicon yttrium carbide nitride (Si4Y2CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(doped with rare earth ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 903905-89-5P, Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6)
903905-90-8P, Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6)
903905-91-9P, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6)
903905-92-0P, Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6)
903905-93-1P, Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 1314-36-9, Yttrium oxide, reactions 7440-44-0, Carbon, reactions 7727-37-9, Nitrogen, reactions 12033-89-5, Silicon nitride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 7440-27-9, Terbium, properties 7440-45-1, Cerium, properties 18923-26-7, Cerium(3+), properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(yttrium carbide nitride silicide doped with; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Adamsky, R; Z Kristallogr 1959, V111, P350 CAPLUS
(2) Ekstrom, T; J Mater Chem 1997, V7, P505 CAPLUS
(3) Hintzen, H; EP 1104799 2001 CAPLUS
(4) Hirosaki, N; WO 2005078811 2001 CAPLUS
(5) Hoppe, H; J Mater Chem 2001, V11, P3300
(6) Lammers, M; J Electrochem Soc 1987, V134, P2068 CAPLUS
(7) Lee, J; J Am Ceram Soc 1979, V58, P869 CAPLUS
(8) Li, Y; J Solid State Chem 2004, V177, P4687 CAPLUS
(9) Liddell, K; J Eur Ceram Soc 2005, V25, P37 CAPLUS
(10) Schmidt, P; WO 2005083037 A1 2005 CAPLUS
(11) Thompson, D; Mater Sci Res 1986, V20, P79 CAPLUS
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(13) van Krevel, J; J Solid State Chem 2002, V165, P19 CAPLUS
(14) Wiles, D; J Appl Crystallogr 1981, V14, P149 CAPLUS
(15) Wiles, D; J Appl Crystallogr 1982, V15, P430

L3 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2009 ACS on STN
RN 903905-89-5 REGISTRY
ED Entered STN: 23 Aug 2006
CN Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6) (CA INDEX NAME)
MF C . Ce . N . Si . Y
AF C Ce0.06 N6 Si4 Y1.94
CI TIS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Component	Ratio	Component Registry Number
N	6	17778-88-0
Y	1.94	7440-65-5
Ce	0.06	7440-45-1
C	1	7440-44-0
Si	4	7440-21-3

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

Full Text

AN 145:220100 CA
TI Preparation, Structure, and Luminescence Properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+
AU Zhang, Hongchuan; Horikawa, Takashi; Machida, Ken-Ichi
CS Center for Advanced Science and Innovation, Osaka University, Suita, Osaka, 565-0871, Japan
SO Journal of the Electrochemical Society (2006), 153(7), H151-H154
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78
AB Rare-earth Si carbonitrides, Y2Si4N6C and Y2Si4N6C:M3+ (M=Ce,Tb), were prepd. by a carbothermal redn. and nitridation method. The crystal structure of Y2Si4N6C was detd. by Rietveld refinement using the at. coordinates of Ho2Si4N6C as a starting model. The host lattice was isostructural with Ho2Si4N6C of monoclinic system [P21/c, a 5.9295(1), b 9.8957(1), c 11.8800(2) A, β 119.63(4)°, and Z = 4]. The photoluminescence properties of doped materials, Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+, were characterized from the detailed structural anal. result.
ST prepn structure luminescence yttrium carbide nitride silicide cerium terbium
IT Reduction
(carbothermic, in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Nitriding
(in prepn.; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Bond angle
Bond length
Crystal structure
Luminescence
Molecular structure
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT Photoexcitation
(spectra; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 343332-13-8P, Silicon yttrium carbide nitride (Si4Y2CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(doped with rare earth ions; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 903905-89-5P, Cerium silicon yttrium carbide nitride (Ce0.06Si4Y1.94CN6) 903905-90-8P, Silicon terbium yttrium carbide nitride (Si4Tb0.3Y1.7CN6) 903905-91-9P, Cerium silicon yttrium carbide nitride (Ce0.02Si4Y1.98CN6) 903905-92-0P, Cerium silicon yttrium carbide nitride (Ce0.04Si4Y1.96CN6) 903905-93-1P, Cerium silicon yttrium carbide nitride (Ce0.08Si4Y1.92CN6)
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)
IT 1314-36-9, Yttrium oxide, reactions 7440-44-0, Carbon, reactions 7727-37-9, Nitrogen, reactions 12033-89-5, Silicon nitride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

IT 7440-27-9, Terbium, properties 7440-45-1, Cerium, properties 13923-26-7, Cerium(3+), properties 22541-20-4, Terbium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(yttrium carbide nitride silicide doped with; prepn., structure, and luminescence properties of Y2Si4N6C:Ce3+ and Y2Si4N6C:Tb3+)

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(4) Hirosaki, N; WO 2005078811 2001 CAPLUS
(5) Hoppe, H; J Mater Chem 2001, V11, P3300
(6) Lammers, M; J Electrochem Soc 1987, V134, P2068 CAPLUS
(7) Lee, J; J Am Ceram Soc 1979, V58, P869 CAPLUS
(8) Li, Y; J Solid State Chem 2004, V177, P4687 CAPLUS
(9) Liddell, K; J Eur Ceram Soc 2005, V25, P37 CAPLUS
(10) Schmidt, P; WO 2005083037 A1 2005 CAPLUS
(11) Thompson, D; Mater Sci Res 1986, V20, P79 CAPLUS
(12) van Krevel, J; J Alloys Compd 1998, V268, P272 CAPLUS
(13) van Krevel, J; J Solid State Chem 2002, V165, P19 CAPLUS
(14) Wiles, D; J Appl Crystallogr 1981, V14, P149 CAPLUS
(15) Wiles, D; J Appl Crystallogr 1982, V15, P430

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